

CLAIMS

What is claimed is:

1 1. A method of recording multiple programs onto a storage medium,
2 comprising the steps of:
3 receiving a plurality of multimedia inputs;
4 sampling the multimedia inputs such that the sampled multimedia inputs
5 contain a portion of the plurality of multimedia inputs;
6 combining the sampled multimedia inputs; and
7 encoding the sampled multimedia inputs such that the number of encoding
8 devices required to encode the sampled multimedia inputs is less than the number
9 of the plurality of multimedia inputs.

1 2. The method according to claim 1, further comprising the step of playing
2 back the sampled multimedia inputs.

1 3. The method according to claim 2, wherein said playing back step
2 further comprises the steps of:
3 decoding at least one of the encoded sampled multimedia inputs to
4 provide a decoded signal; and
5 processing the decoded signal to enable the display of at least one of
6 the multimedia inputs.

1 4. The method according to claim 3, wherein said processing step further
2 comprises the step of upconverting at least one of the sampled multimedia inputs.

1 5. The method according to claim 1, wherein said method further
2 comprises the step of providing a dummy input to be combined with at least one of
3 the sampled multimedia inputs.

1 6. The method according to claim 1, wherein the plurality of multimedia
2 inputs contain multimedia data selected from the group comprising video, audio or a
3 combination thereof.

1 7. The method according to claim 1, wherein each of the plurality of
2 multimedia inputs contain audio and video.

1 8. The method according to claim 6, wherein the multimedia inputs
2 containing video include a D1 video signal and said sampling step further comprises
3 the step of sampling the D1 video signal to a one-half D1 video signal.

1 9. The method according to claim 6, wherein the multimedia inputs
2 containing video include a D1 video signal and said sampling step further comprises
3 the step of sampling the D1 video signal to an SIF video signal.

1 10. The method according to claim 6, wherein the multimedia inputs
2 containing audio include an audio signal with more than two channels of audio and

3 said sampling step further comprises the step sampling the audio signal to a stereo
4 signal.

1 11. The method according to claim 6, wherein the multimedia inputs
2 containing audio include an audio signal with more than two channels of audio and
3 said sampling step further comprises the step sampling the audio signal to a mono
4 signal.

1 12. A system for encoding a plurality of multimedia input signals,
2 comprising:
3 at least one sampler for sampling the multimedia input signals such that the
4 sampled multimedia input signals contain a portion of the plurality of multimedia
5 input signals;
6 a combiner for combining the sampled multimedia input signals; and
7 at least one encoder for encoding the sampled multimedia input signals,
8 wherein the number of encoders is less than the plurality of multimedia input signals.

1 13. The system according to claim 12, wherein the plurality of multimedia
2 input signals comprise audio signals and the system comprises:
3 a receiver for receiving the audio signals;
4 a downmixer for downmixing the audio signals; and
5 at least one encoder for encoding the downmixed audio signals, wherein the
6 number of encoders is less than the number of audio signals.

1 14. The system according to claim 13, wherein the plurality of multimedia
2 inputs signals are video signals and audio signals and the system further comprises
3 a multiplexer for multiplexing the video and the audio signals.

1 15. The system according to claim 14, further comprising:
2 a decoder for decoding at least one of the encoded sampled multimedia
3 inputs to provide a decoded signal; and
4 a processor for processing the decoded signal to enable the display of at
5 least one of the multimedia inputs.

1 16. The system according to claim 15, further comprising a demultiplexer
2 for demultiplexing the audio and video signals.

1 17. The system according to claim 16, further comprising a display device
2 for outputting the audio and video signals.

1 18. The system according to claim 12, further comprising a dummy
2 program generator for providing a dummy input to be combined with at least one of
3 the sampled multimedia inputs.

1 19. The system according to claim 12, wherein the number of encoders
2 is less than the number of samplers used for sampling the multimedia input signals.

1 20. A system for encoding a plurality of multimedia input signals, wherein
2 the multimedia input signals contain video signals and audio signals comprising:
3 a receiver for receiving the plurality of multimedia input signals;
4 at least one sampler for sampling the multimedia input signals such that the
5 sampled multimedia input signals contain a portion of the plurality of multimedia
6 input signals;
7 a combiner for combining the sampled multimedia input signals;
8 at least one encoder for encoding the sampled multimedia input signals,
9 wherein the number of encoders is less than the plurality of multimedia input signals;
10 a multiplexer for multiplexing the video and the audio signals;
11 a decoder for decoding at least one of the encoded sampled multimedia
12 inputs to provide a decoded signal;
13 a processor for processing the decoded signal to enable the display of at
14 least one of the multimedia inputs;
15 a demultiplexer for demultiplexing the audio and video signals;
16 a display device for outputting the audio and video signals; and
17 a dummy program generator for providing a dummy input to be combined with
18 at least one of the sampled multimedia inputs.